



**PRODUCTION FLARES FOR THE
OIL AND GAS INDUSTRY**

**Advanced Combustion Solutions
for Production Applications**



Callidus Experts In Onshore and Offshore Production Flare Technology

We Pride Ourselves On Quality

Callidus Technologies by Honeywell develops flare systems for hydrocarbon processing, oil and gas production, steel, carbon black and petrochemical processing industries. Each of these flare systems is built to match the customer's specific process criteria and performance requirements. Through our engineering expertise, manufacturing capabilities and worldwide service, Callidus is a leader in flare technology. The Callidus team has hundreds of years of experience in the design of flare systems and has been involved in the design, fabrication, and startup of hundreds of flare systems worldwide.

Our manufacturing facilities comply with the highest quality standards in the industry. Many of our own internal quality assurance programs require higher performance standards than some industry certifications.

Our manufacturing techniques use state-of-the-art equipment and our employees are highly trained for their specialized tasks. Ongoing training is regularly scheduled through our research and development group to ensure that the highest level of quality and performance is maintained for each project.

Callidus quality assurance personnel thoroughly inspect each flare system prior to shipment reducing installation time. Callidus project execution and manufacturing is certified to USA and China ISO 9001:2008.



Production flare

Production Flare

Callidus has developed a wide range of production flare technologies for the oil and gas production industry, both onshore and offshore. Our innovations have resulted in the development of flares that produce low thermal radiation levels at all flow rates with dramatic reduction in flare tip weight.

Through our client driven research and development programs, the Callidus flare group, has developed many distinct production flare technologies each one with its own advantages.

- The EXPERT - This proprietary tip design is coupled with extended periphery exit nozzles to produce a high flow, low thermal radiation flame.
- The QUATRO - This flare tip design produces an extremely short, low heat radiation flame.

- The HEMISFLARE - This product group of flares utilizes a variable exit area principle to produce increased air / fuel mixing resulting in increased smokeless capacity and lower radiation.

All burners use stainless construction and CK-20 investment cast nozzles that operate well at low flow/purge conditions with dramatically extended flare tip life.

The extremely stable pilot system has been tested in hurricane wind conditions with rainfalls equal to over 100 inches per hour. The pilot system incorporates a windshield, strainer and a true premix burner capable of firing in 0% oxygen environments at the pilot tip ensuring stable operation.

Production Flare

- Low radiation over wide range
- Choice of multiple state of the art technologies to match individual requirements
- Long service life
- Low weight
- High smokeless capacity
- Short boom length/less boom weight
- Extremely stable pilot
- Investment cast burners and components

Callidus Advantages:

- Low radiation levels
- Light weight
- Short flare boom
- Short rigid flame
- Smokeless flaring
- Low emissions



Hemisflare tip

Multipoint Flare System

Sometimes used in the offshore arena, the CAL-MP (Multipoint) Flare System is the result of over 20 years of work in the development of multipoint flare designs. Callidus' unique burner system develops significantly higher surface to area relationships for the waste gas exit. This feature provides more air inspiration and greater turndown capability.

Multipoint flares offer unlimited smokeless capacity and the lowest possible radiation. Reductions in thermal radiation levels of 60% or greater are often achieved. Callidus MP burners are high quality stainless steel castings with thicker metal cross sections, longer life, better waste gas flow patterns and lower internal pressure drops. These high quality castings also dramatically



Multipoint flare system

reduce the potential of cracking. Callidus MP Flares are in service both onshore and offshore, with smokeless capacities in excess of 3,000,000 lbs/hr.

Multipoint Flare System

- Unique burner design provides high surface to area relationship
- Unlimited smokeless capacity
- Extremely stable pilots
- Easy maintenance-all equipment at grade
- Low radiation and no radiation designs available
- Cast stainless steel burners
- Infinite turndown staging system
- Extremely long life burners

Callidus Advantages:

- Lower pressure drop or higher flow at a given pressure
- Plug welded brackets
- High quality investment cast stainless steel burner
- Longer burner life

Totally Enclosed Ground Flare

The CAL-TEGF Totally Enclosed Ground Flare was developed by Callidus to burn flare gases with minimal environmental impact. The flame burns completely concealed from view with no smoke, very low noise, reduced emissions and no radiation outside the combustor. The CAL-TEGF is ideal for FPSO/FSO applications where constant flaring can occur.

The CAL-TEGF flare utilizes a refractory lined combustor with highly efficient burners. Most equipment is located near grade for easy and online maintenance.

Both forced-draft and natural-draft systems are available.

The Callidus engineering team has been involved in the design of enclosed flares for more than 200 combined years. Our experience provides a one stop source for enclosed flares from vapor inlet to combustor stack. Callidus enclosed flares are available completely skid mounted, pre-wired, pre-piped, and tested. Applications include truck, marine and rail car terminals, production onshore and offshore (FPSO), refining, and petrochemical plants.

Totally Enclosed Ground Flare

- Easy, online maintenance
- Sole source systems including installation
- Skids 100% pre-wired, pre-piped, assembled and tested
- Flame finder technology
- Smokeless combustion
- Very low noise levels
- No radiation outside the combustor
- Reduced emissions



Totally Enclosed Ground Flare

Test Facility

The Callidus flare test facility is in continual use for flare technology research and development as well as customer witnessed demonstrations. Our array of test flares and flare systems allows us to closely match actual field operating conditions, providing results which will more accurately predict the measured performance of flares installed in the field.

Our Beggs, Oklahoma testing facility features the following:

- Flare School Classroom
- State-of-the-art Data Acquisition System
- Excess of 600,000 lb/hr (300 mmscfd) capacity
- Online noise spectrum analysis.

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Callidus 82,000 sq. ft. manufacturing and fabrication facility in USA



Callidus headquarters - Tulsa, Oklahoma. USA

Global Coverage

Callidus reaches the world market through our headquarters located in Tulsa, Oklahoma, USA, regional direct sales offices throughout the world and independent sales representation across the globe.

Meeting our customers' expectations and setting the standards for the combustion industry have always been our company goals. Each burner, flare, thermal oxidizer and catalyst system we design and manufacture is built with those goals in mind.

